

Serial No.: 10/721,884

**IN THE DRAWINGS:**

A corrected Figure 11 is submitted herewith that shows the correct reference numerals.

**REMARKS**

By this Amendment, Figure 11 and claim 15 are revised and claim 16 is added to place this application in condition for allowance. Currently, claims 2, 5, 6 and 9-13, and 15 are before the Examiner for consideration on their merits, and claims 3, 4, 7, 8, and 14 have been withdrawn from consideration. While certain claims are withdrawn from consideration, Applicants again make their plea below that claim 15 is generic and that the restriction requirement should be withdrawn.

First, the objection to Figure 11 is overcome by its resubmission with the prior reference numerals.

Second, the three prior art rejections are addressed below under the respective headings of the applied prior art.

**Hauck**

The rejection based on United States Published Patent Application No. 2003/0186749 fails for the same reasons as set forth in the previous response as applied to GB 245,847 (GB). That is, Hauck does not establish a prima facie case of anticipation against claim 15 and the rejection must be withdrawn.

Hauck is cumulative to the prior art discussed in the background section of the specification. Hauck shows a decoupling element 15 which has projections which undulate along the element's outer and inner edge surfaces, the projections being convex and separated by a flat section. This configuration is similar to that identified in the background art section, see page 2, lines 9-16, and these type of a decoupling elements do not require the bonding that other prior art elements require. However, they have their other deficiencies. As explained on page 2, these types of decoupling elements allow slip over a certain torque, with a return to the driving configuration occurring when the torque falls below the cutoff point. However, this arrangement also results in a non-linearity in the exertion of torque, which leads to non-linear stiffness and harm to the filtering function.

The present invention overcomes this problem by providing the decoupling element with the abrupt projections on its faces. As explained on pages 2 and 3 of the specification, the faces on the decoupling element and the facing face of the support

present complementary abrupt projections suitable for meshing together. This meshing of the ring creates zones at the roots of the projections where the central core substantially works in shear, these zones being regularly distributed over at least one of the faces of the ring. The central core extends from the protuberance-free continuous annular portion of the ring.

Under such conditions, the work of the ring is performed by reducing the radial component of the compression which would otherwise become preponderant with increasing angular offset. A linear relationship between torque and offset is then ensured, which leads to constant stiffness over a large angular range, for example a range greater than  $\pm 9^\circ$ , and thus to a narrow resonant band.

Thus, the use of the abrupt projections as described above provides a significant advance in this art, such an advance not contemplated by Hauck. In fact, since Hauck employs essentially the same configuration as the prior art discussed above, it suffers from the same deficiencies.

It is contended that Hauck does not anticipate claim 15 for the reason that Hauck does not disclose the arrangement of the two support members and decoupling element with the decoupling element having the abrupt protections and the resultant creation of shear in the central zone as recited in claim 15.

In the rejection, the Examiner alleges that the concave and convex surfaces of the decoupling element of Hauck are the same as the claimed abrupt projections, and therefore Hauck teaches all of the claimed elements. This position is believed to be in error for two reasons.

First, Applicants contend that the undulating surfaces of the decoupling element of Hauck do not meet the limitations of claim 15. In review, claim 15 defines faces on the decoupling element ring having abrupt projections designed to mesh with the abrupt projections on the faces of the supports. Hauck cannot be said to have a decoupling element with faces having abrupt projections. The Examiner's position that the transition of the concave outer surface portion of the decoupling element of Hauck to a flat surface portion as "abrupt" is an unreasonable interpretation of the claim language. While the Examiner is entitled to give the claims their broadest reasonable

interpretation, this interpretation must be consistent with that which would be reached by those skilled in the art. It is respectfully asserted that one of skill in the art would not interpret a face having an “abrupt” projection to be the same as a concave face that smoothly transitions to a flat projection. Put another way, Hauck does not teach a decoupling element with the claimed faces and abrupt projections, and the rejection based on 35 U.S.C. § 102(b) must be withdrawn.

Secondly, the decoupling element, its face and its abrupt projection are also described in claim 15 in terms of the zones in the central core at the root of the projections wherein the central core works in shear during transmission of power. The Examiner does not even address this claim limitation in the rejection, and the failure to do so taints the rejection and mandates its withdrawal. If a further rejection is made, the Examiner is called upon to address this claim limitation.

Even if the Examiner were to allege that the zones and central core were inherent in Hauck, such an allegation is effectively rebutted by the specification. The specification shows that the invention results in the central core working in shear as a result of the abrupt projections, thereby resulting in a constant stiffness over a large angular range, see page 3, lines 5-16, and page 6, lines 17-32. This result solves the non-linear stiffness attributed to the decoupling elements of the prior art, i.e., those with the concave/convex shape. The specification indicates that the working in shear of the central core would not be found in the prior art systems that use a decoupling element of concave and convex shape. Since Hauck uses such a shape as part of its decoupling element, Applicants assert that the specification shows that the claim limitations at issue are not inherent in Hauck.

In an inherency position, the Examiner would have to say that the prior art achieves the same results as the invention, but the specification says otherwise and this explanation is sufficient to show that an inherency position is flawed and could not be sustained on appeal.

The arguments above demonstrate that Hauck cannot establish a *prima facie* case of anticipation against claim 15. Moreover, there is no basis to contend that Hauck could somehow be modified so that the Examiner could allege obviousness.

There is absolutely no suggestion in Hauck to change the shape of the decoupling element to include abrupt projections. Moreover, Hauck does not even recognize the problem faced by the inventors let alone the inventive solution. Any contention that Hauck obviates the invention can only be the hindsight reconstruction of the prior art in light of Applicants' disclosure.

#### Krueger

The invention is distinguished from Krueger via the amendment to claim 15 wherein both faces of the central core have the abrupt projections. The presence of this limitation removes the anticipation rejection since Krueger's resilient element 16 has an intermediate surface with undulations 15 intended to mesh with the propelling driving member 14. The interaction is described as not slipping under normal torque conditions. Thus, the transmission combination of Krueger, i.e., the propeller driving member 14/resilient member 15, and hub 20 is governed by the cut-off torque of the undulation transmission 15. This is the very arrangement of the prior art and is incapable of overcoming the drawbacks of non-linear stiffness as explained in the instant specification, see page 2, first and second paragraphs.

Since Krueger cannot anticipate claim 15, as amended, the only recourse for the Examiner is to rely on 35 U.S.C. § 103(a) to further reject the claims. However, the Examiner has no basis to modify Krueger and allege that it would be obvious to change the configuration of the undulations 15. To make such an assertion would use the invention as a teaching template, and such a stance is the application of hindsight. Consequently, there is no basis to reject claim 15 under 35 U.S.C. § 103(a).

#### Hewel

In the rejection based on Hewel, the Examiner contends that the pointed teeth 18 of shaft 11 and pointed teeth 19 of the disk constitute the combination of faces with abrupt projections. This position fails to take into account that claim 15 defines that the decoupling element ring has opposing faces with abrupt projections, and that the meshing of the faces of the decoupling element ring with the two supports creates the

zones at the roots of the abrupt projections in the central core wherein the central core works in shear for transmission of power.

In Hewel, the outer peripheries of the disk 15 and the shaft 11 are a series of abrupt projections. In contrast, claim 15 defines the decoupling element ring as having opposing faces having abrupt projections and the supports are defined as meshing with the faces having the abrupt projections. This structure is not found in Hewel, and Hewel cannot be said to anticipate claim 15 for this reason. Clearly, there are no "opposing faces" and "abrupt projections" in the disk 15 of Hewel, only "abrupt projections" and this claim element is lacking. Although it is believed that claim 15 makes this distinction clear, claim 16 is added to clarify that the faces are abrupt projections are spaced from each other, and this configuration is clearly not taught by Hewel.

Moreover, it is argued that Hewel also fails to teach the structure of a decoupling element ring and two supports that creates zones in the central core of the decoupling element that work in shear. In Hewel, the disk 15 periphery is a series of pointed teeth, which, when meshed with the shaft 11 or the flange 13 cannot create the claimed shear zones in the central core of the disk 15. The shear zones are created in respect of sufficient alternative areas that interact directly with one another, whereas Hewel does not provide such an alternative zone of interaction. Instead, Hewel has zones that increase and reduce from a basis to the sharp point at the end of the tooth.

Since Hewel teaches a fundamentally different structure than the invention described in claims 15 and 16, the rejection based on 35 U.S.C. § 102(b) must be withdrawn.

The basis for a rejection under 35 U.S.C. § 103(a) is missing for the same reasons as outlined above for Krueger. That is, there is no basis in fact to modify Hewel so as to include faces with abrupt projections as recited in claims 15 and 16. Therefore, the rejection based on Hewel should be withdrawn.

#### RESTRICTION REQUIREMENT

Lastly, it is contended that claim 15 is a generic claim and that Applicants are entitled to a consideration of a reasonable number of species. Therefore, the restriction requirement as applied to claims 3, 4, 7, 8, and 14 should be withdrawn, and these claims should be allowed as claims dependent from claim 15.

**SUMMARY**

In summary, it is respectfully contended that each and every issue raised in the outstanding Office Action has been addressed herein. Thus, the claims are neither anticipated nor rendered obvious by the applied prior art of Hauck, Krueger, and Hewel.

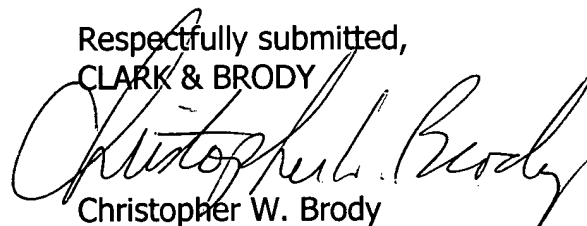
Accordingly, the Examiner is requested to examine this application in light of this response and pass claims 2-16 onto issuance. If the Examiner believes that an interview with Applicants attorney would be helpful in expediting the allowance of this application, the Examiner is respectfully requested to telephone the undersigned at 202-835-1753.

The above constitutes a complete response to all issues raised in the Office Action dated May 3, 2006. Again, reconsideration and allowance of this application is respectfully requested.

Applicants petition for a two month extension of time. A check in the amount of \$450.00 is enclosed to cover the cost of the petition fee.

Please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,  
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